

**UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION**

ECOFACITOR, INC.,

Plaintiff,

v.

GOOGLE LLC,

Defendant.

Case No. 6:20-cv-00075-ADA

JURY TRIAL DEMANDED

**RESTRICTED – OUTSIDE
ATTORNEYS’ EYES ONLY**

FILED UNDER SEAL

GOOGLE LLC’S MOTION FOR SUMMARY JUDGMENT

PUBLIC VERSION

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Google hereby moves for summary judgment that the Asserted Claims of U.S. Patent No. 8,412,488 (“the ’488 patent”) are invalid for failure to satisfy 35 U.S.C. § 112. The Asserted Claims of the ’488 patent are invalid for lack of written description because they fail to “reasonably convey[] to” a person having ordinary skill in the art “that the inventor had possession of the claimed subject matter as of the filing date.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The Asserted Claims of the ’488 patent are invalid as indefinite as they fail to provide a person of ordinary skill in the art reasonable certainty regarding the scope of the claimed invention. *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901, (2014); *Biosig Instruments, Inc. v. Nautilus, Inc.*, 783 F.3d 1374, 1380–81 (Fed. Cir. 2015).

Summary judgment is appropriate where, as here, “the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a); *Tolan v. Cotton*, 572 U.S. 650, 656-57 (2014).

I. INTRODUCTION

The ’488 patent, one of three patents being asserted by EcoFactor against Google, claims a system that compares a temperature measurement inside a building with the “estimated” rate of change of temperature measurements of that building to determine whether an associated HVAC system is “on” or “off.” The express language of the Asserted Claims requires a comparison of “an inside temperature” with an “estimation for the rate of change in inside temperature” to “determine whether the first HVAC system is on or off.” ’488 patent, 9:41–45. The ’488 patent specification, however, does not provide any description of how one would compare an “inside temperature” to an “estimated rate of change of inside temperature,” given that these two quantities are measured in different units.

Although the '488 patent describes how a temperature measurement can be compared to another temperature measurement ('488 patent at 7:55-57) and how a measured rate of change can be compared to another measured rate of change ('488 patent at 8:25-27), nowhere does the '488 patent describe how to make the apples to oranges comparison between a temperature and a rate of change of a temperature. Nor does '488 patent provide any details regarding how the “estimated rate of change in inside temperature” is determined such that one could calculate it, and make the required comparison to “determine whether the first HVAC system is on or off.” This lack of meaningful description as to how to implement the claim is unsurprising given that, Mr. Hublou, EcoFactor’s co-founder and a named inventor on the '488 patent, conceded that “none” of the asserted patents “actually disclosed any of our mathematics” or “the mathematics in order to be able to achieve this thing, to achieve the result” as claimed in the asserted patents. Ex. A (1258 Hublou Dep. Tr.) at 177:19–22. Moreover, EcoFactor’s own experts, who both claim to be persons having ordinary skill in the art, have applied two different and contradictory interpretations, highlighting the lack of sufficient written disclosure in the specification of '488 patent for this limitation.

Because the '488 patent lacks a meaningful description as to how to implement the claim, one of skill in the art would not understand that the inventors had possession of the claimed subject matter as of the filing date, rendering the Asserted Claims of the '488 patent invalid for lack of written description under 35 U.S.C. § 112(a). Further, because the Asserted Claims of the '488 patent fail to provide a person of ordinary skill in the art reasonable certainty regarding the scope of the claimed invention, they are invalid as indefinite under 35 U.S.C. § 112(b).

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II. BACKGROUND

EcoFactor, Inc. (“EcoFactor”) asserts claims 1, 2, 5, and 8 of the ’488 patent (the “Asserted Claims”) against Google LLC (“Google”). Claims 2, 5, and 8 depend from claim 1, which recites:

1. A system for monitoring the operational status of an HVAC system comprising:

at least one HVAC control system associated with a first structure that receives temperature measurements from at least a first structure conditioned by at least one HVAC system;

one or more processors that receive measurements of outside temperatures from at least one source other than said HVAC system,

wherein said one or more processors compares the inside temperature of said first structure and the outside temperature over time to derive an estimation for the rate of change in inside temperature of said first structure in response to outside temperature, and
 wherein said *one or more processors compare an inside temperature recorded inside the first structure with said estimation for the rate of change in inside temperature of said first structure to determine whether the first HVAC system is on or off.*

’488 patent at 9:25–45 (emphasis added).

III. THE ASSERTED CLAIMS OF THE ’488 PATENT ARE INVALID FOR LACK OF WRITTEN DESCRIPTION

“[E]xclusive patent rights are given in exchange for disclosing [an] invention to the public.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 736 (2002). A patent’s specification must “contain a written description of the invention.” 35 U.S.C. § 112(a). “[T]he hallmark of written description is disclosure.” *Ariad*, 598 F.3d at 1351. A patent must “reasonably convey[] to” a person having ordinary skill in the art (“PHOSITA”) “that the inventor had possession of the claimed subject matter as of the filing date.” *Id.* at 1351. The ’488 patent specification lacks any disclosure conveying that the inventors were in possession of a way to “compare an inside temperature recorded inside the first structure with said estimation for the rate of change in inside temperature of said first structure to determine whether the first HVAC system is on or off” as required by the Asserted Claims. ’488 patent, 9:41–45.

A. The '488 patent does not disclose how to compare a temperature measurement inside a building with the “estimated” rate of change of temperature measurements of that building

First, the '488 patent specification does not “actually or inherently disclose” how to compare a temperature to a rate of change of temperature. *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008). The adequacy of a written description “requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art. Based on that inquiry, the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad*, 598 F. 3d at 1351. The lack of any disclosure of how to compare a temperature to a rate of change in temperature to “determine whether the first HVAC system is on or off” is fatal to any argument EcoFactor might raise. *D Three Enterprises, LLC v. SunModo Corp.*, 890 F.3d 1042, 1052 (Fed. Cir. 2018) (affirming summary judgment of invalidity under 35 U.S.C. § 112(a)).

To perform a comparison between two parameters, they must be measured or defined in mathematical units or physical quantities that are in the same category, and thus can be related to one another. *See* Ex. B (Williams Report) at ¶ 696. While the '488 patent describes how a temperature measurement can be compared to another temperature measurement ('488 patent at 7:55-57) and how a measured rate of change in temperature can be compared to another measured rate of change in temperature ('488 patent at 8:25-27), nowhere does the '488 patent describe how to make the apples to oranges comparison between a temperature and a rate of change in that temperature. Ex. B (Williams Report) at ¶ 699.

EcoFactor's expert alleges the '488 patent specification contains disclosures that “describe comparing temperatures and rates of changes in temperature.” *See* Ex. C (Palmer Report) at ¶ 92.

Dr. Palmer’s argument misses the mark, as none of the portions of the specification cited to provide disclosure on “how” the specific comparison recited in the limitation at issue “is achieved.” *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 683 (Fed. Cir. 2015) (explaining that the “telling question is whether the specification shows possession by the inventor of how [the limitation] is achieved”).

Dr. Palmer first relies on the Summary of the Invention, which merely includes a high-level description of the purported invention. *See* Ex. C (Palmer Report) at ¶ 92 (citing ’488 patent 3:25–47). This describes using “the relationship between the **inside temperature and the outside temperature**” to derive two predictions for the rate of change in inside temperature, one when the HVAC system is on and the other when it is off. ’488 patent, 3:35–42. This high-level description does not support Dr. Palmer’s position, as it describes a comparison of one temperature to another temperature, and therefore provides no description of how to actually make the comparison required by the claim. The Summary of the Invention also states: “said processor compares at least one of the first prediction and the second prediction to the actual inside temperature recorded inside the structure to determine whether the actual inside temperature is closer to the first prediction or the second prediction.” ’488 patent 3:42–47. This phrase provides no description or explanation of how to compare these “predictions” to a recorded inside temperature. “A ‘mere wish or plan’ for obtaining the claimed invention is not adequate written description.” *Centocor Ortho Biotech, Inc. v. Abbott Labs.*, 636 F.3d 1341, 1348 (Fed. Cir. 2011).

Dr. Palmer next relies on a portion of the specification hypothesizing that “it will be possible to predict how quickly the temperature in the house should rise” and that “if the actual temperature change is significantly different from the predicted rate of change, or does not change at all, it is possible to infer that the air conditioning has not, in fact been shut off.” Ex. C (Palmer

Report) at ¶ 92 (citing '488 patent 4:6–14). This portion of the specification and Dr. Palmer's related opinion appear to be describing the comparison of an amount of change to a rate of change and not a comparison of a temperature to an "estimation for the rate of change in inside temperature," as required by the Asserted Claims. Even if one were to assume that it was describing a comparison of a temperature to a rate of change, the fact remains that there is no actual description as to how that comparison between parameters in different units could be made.

Dr. Palmer then cites to the portion of the specification associated with Figure 8, as describing comparing a temperature to a rate of change in temperature, yet this portion of the specification is clearly describing temperature to temperature comparison of a predicted reading of temperature to the actual reading of temperature. Ex. C (Palmer Report) at ¶ 92 (citing '488 patent 7:51–60) ("The server then calculates 504 the temperature reading to be expected for that thermostat given inputs such as current and recent outside temperature, recent inside temperature readings, the calculated thermal mass of the structure, temperature readings in other houses, etc. The server will *compare 506 the predicted reading with the actual reading.*") (emphasis added). Moreover, this portion of the specification again fails to provide any description as to how to use the "given inputs" to calculate the predicted temperature used in the comparison.

The final portion of the specification relied upon by Dr. Palmer similarly fails to disclose a comparison of a temperature and an estimation for the rate of change of temperature. Instead, the specification describes a comparison of the actual rate of change of the inside temperature to the predicted rate of change of the inside temperature, and again without providing any written description as to how the "predicted" rate of temperature change is determined. Ex. C (Palmer Report) at ¶ 92 (citing '488 patent 8:22–33) ("In contrast, if the HVAC system at house A has been tampered with, so that a demand reduction signal from the server does not actually result in

shutting off the A/C in house A, when the server *compares the rate of temperature change* at house A against the other data points, the server will receive data inconsistent *with the rate of increase predicted.*”) (emphasis added).

As discussed above, none of the portions of the specification of the ’488 patent identified by Dr. Palmer provide any written description of how the comparison of an “inside temperature” to an “estimated rate of change of inside temperature” can be achieved, rendering the Asserted Claims of the ’488 patent invalid for lack of written description. *Vasudevan*, 782 F.3d at 683.

Dr. Palmer continues, contending that a person of skill would readily understand that the claimed “estimation for the rate of change in inside temperature” can be used to predict what the inside temperature will be at a given time, and that this predicted temperature can then be compared to the actual inside temperature to determine whether the HVAC is on or off. *See* Ex. C (Palmer Report) at ¶ 93. This opinion ignores the actual claim language and is an improper re-writing of the plain language of the claim, not based on the disclosure of the ’488 patent, but rather on what Dr. Palmer appears to believe would be obvious to a person of skill. However, “[o]ne shows that one is ‘in possession’ of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997). Further, EcoFactor’s experts, who both claim to be persons having ordinary skill in the art, have applied two different and contradictory interpretations, highlighting the lack of sufficient written disclosure in the specification of ’488 patent for this limitation.

In his deposition Dr. Palmer made clear that a person of skill in the art could not interpret the claim language to cover a rate-to-rate comparison “[b]ecause a measured temperature doesn’t tell you rate. You would have to have multiple measured temperatures in order to determine the rate. And the claim expressly calls for a temperature being compared. And, so, that would -- that

would not leave the latitude to do a rate versus rate calculation.” Ex. D (Palmer Dep. Tr.) at 71:17-22.

However, EcoFactor’s infringement expert, Mr. de la Iglesia, stated that he used an estimated rate compared against a generated rate for the purpose of his infringement analysis. Ex. E (de la Iglesia Dep. Tr.) at 175:24-176:8. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] These

contradictory interpretations by EcoFactor’s own experts further establish that the ’488 patent fails to provide a written description that reasonably conveys that the inventors were in possession of the invention as claimed.

B. A ’488 inventor has admitted that they were not in possession of a way to compare an “inside temperature” to an “estimation for the rate of change in inside temperature” at the alleged priority date of the ’488 patent

The ’488 patent fails to reasonably convey how the “estimated rate of change in inside temperature” is calculated such that it could be quantified and compared to the inside temperature to “determine” whether the HVAC system is on or off. The lack of any meaningful disclosure in the specification of the ’488 patent describing how to compare an “inside temperature” to an “estimation for the rate of change in inside temperature” to determine whether the “HVAC system is on or off” is unsurprising as Mr. Hublou, EcoFactor’s co-founder and a named inventor on the ’488 patent, conceded that “none” of the asserted patents “actually disclosed any of our mathematics” or “the mathematics in order to be able to achieve this thing, to achieve the result” as claimed in the asserted patents. Ex. A (1258 Hublou Dep. Tr.) at 177:19–22.

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Adequate written description “reasonably conveys” possession of the invention to a person of skill in the art without experimentation. *Ariad*, 598 F.3d at 1351. As Mr. Hublou explained, at the time of filing, the inventors themselves did not know how to put the invention into practice. Ex. C (Palmer Rep.) at ¶ 833 (quoting Mr. Hublou, agreeing that, “at the time [they] filed [their] patent applications, [they] were not sure if [their] theories would work” (quoting 1185 Hublou Tr. at 250:4-23)). Indeed, at filing, there was substantial doubt that it could be done, such that “none” of the asserted patents “actually disclosed any of [the necessary] mathematics . . . to achieve the [claimed] result,” Ex. A (1258 Hublou Tr.) at 177:19–22. The reason behind EcoFactor’s failure to disclose the necessary math in its written description of its invention is simple: at the time of filing the application to which the ’488 patent claims priority, EcoFactor did not have any math or algorithm to practice the claimed invention—just a hoped-for result. Ex. A (1258 Hublou Tr.) at 25:22–26:1 (stating that prior to filing EcoFactor “did lots of theoretical mapping” but did not formulate any math or algorithms that would perform the claimed function), 105:20–106:25 (explaining that, at the time the relevant patent application was filed, they sought to patent “the fact that it could be done”), 130:18–131:3 (stating that “[o]ther than inside of my head . . . there was no system that was actually put into place”).

Only after filing the application to which the ’488 patent claims priority did the inventors approach Dr. Auslander and his team at U.C. Berkeley “to prove out whether or not our theory was actually correct because, again, at the time of writing these and kind of creating these concepts, we believed all of this stuff to be true” but did not have “the mathematical capabilities” to “prove that it was actually correct.” Ex. F (1185 Hublou Tr.) at 219:12–220:10. That is, the inventors of the ’488 patent only had a “wish or plan,” not possession of the claimed subject matter. *Centocor Ortho*, 636 F.3d at 1348. Using this written disclosure, it took two Ph.D. students close to a year

of iterative work on advanced mathematics to create a prototype. Ex. A (1258 Hublou Tr.) at 160:22–25 (“It was actually literally taking the patents and all the methodologies that are in those patent and taking them to Berkeley and saying, okay, now we need to prove these things out.”); *see* Ex. G (1185 ID) at 541 (finding that, after the relevant patent application was filed, “two graduate students. . . spent nearly one year of ‘constant[] iterating’ and ‘trial and error’ of ‘very advanced math’ to develop the prototype algorithms and to formulate an equation that . . . was ‘the practical implementation’ of the patents” (quoting Ex. F, 1185 Hublou Tr. at 45:21–46:21; 48:18–22; 49:2–24, 200:12–201:1, 138:1–21)).

The written description requirement “limits patent protection to those who actually perform the difficult work of ‘invention.’” *Billups-Rothenberg, Inc. v. Associated Reg'l & Univ. Pathologists, Inc.*, 642 F.3d 1031, 1036 (Fed. Cir. 2011). It is meant to “ensure that inventors do not attempt to preempt the future before it has arrived.” *Id.* (internal quotation marks and citation omitted). In short, it is meant to prevent what EcoFactor has attempted to do here.

IV. THE ASSERTED CLAIMS OF THE '488 PATENT ARE INVALID AS INDEFINITE

The language of the Asserted Claims of the '488 patent fails to provide a person of ordinary skill in the art reasonable certainty regarding the scope of the claimed invention, rendering the claims indefinite. *Nautilus* 572 U.S. at 901; *Biosig* 783 F.3d at 1380–81. Comparing a temperature measurement inside a building with the “estimated” rate of change of temperature measurements of that building requires apples to oranges comparison between a temperature and a rate of change in that temperature that is nonsensical and impossible to perform. *See* Section III.A; Ex. B (Williams Report) at ¶ 696–98; *Synchronoss Techs., Inc. v. Dropbox, Inc.*, 987 F.3d

1358, 1366-1367 (Fed. Cir. 2021) (holding claims indefinite as a matter of law because the claims were “nonsensical and require an impossibility”).

Further, EcoFactor’s own experts acknowledge the claim language requiring a comparison between a temperature and an “estimated” rate of change must be rewritten to be understood. Dr. Palmer proposes that this rewritten comparison is between two rates (Ex. C Palmer Report at ¶ 93); Mr. de la Iglesia, on the other hand, proposes that this rewritten comparison is between two temperatures (Ex. E, de la Iglesia Dep Tr. at 175:24:176:8). EcoFactor’s experts’ attempts to “redraft” the claim language are not only improper but highlights the lack of certainty relating to the scope of the claim. *See K-2 Corp. v. Salomon S.A.*, 191 F.3d 1356, 1364 (Fed. Cir. 1999) (“Courts do not rewrite claims; instead, we give effect to the terms chosen by the patentee.”); *see also Innovative Display Techs. LLC v. Hyundai Motor Co.*, 2015 WL 2090651, at *22-23 (E.D. Tex. May 4, 2015) (determining plaintiff’s attempt to redraft the claim to replace the phrase “more in the width direction” with “more in the width direction than the height direction” to be improper, determining that claim to be indefinite).

The impropriety of the efforts of EcoFactor’s experts to redraft the claim language is more significant here, as EcoFactor’s experts have redrafted the claim in divergent and materially dissimilar ways. Dr. Palmer redrafts the claims to require a comparison of temperature to predicted temperature by fabricating a rate base on multiple temperature measurements, and Mr. de la Iglesia redrafts the claims to require a comparison of the rate of change to the predicted rate by fabricating a temperature based on a rate. These divergent interpretations provided by EcoFactor’s own experts demonstrate that the claim language at issue fails to “inform those skilled in the art about the scope of the invention with reasonable certainty.” *Diamond Coating Techs., LLC v. Hyundai Motor Am.*, 2014 WL 5698445, at *4 (C.D. Cal. Aug. 25, 2014) (“[I]f a person of ordinary skill

would determine that there are multiple equally plausible but materially dissimilar constructions of a claim term, the claim would fail the 'reasonable certainty' standard").

V. CONCLUSION

The Asserted Claims of the '488 patent are all invalid for lack of written description because they fail to satisfy 35 U.S.C. § 112(a) and are invalid as indefinite because they fail to satisfy 35 U.S.C. § 112(b). Respondents respectfully request that the Court hold that the Asserted Claims of the '488 patent invalid.

Date: November 19, 2021

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on November 19, 2021, the foregoing was served on all counsel of record by e-mail.

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